AMENDMENTS TO THE CLAIMS

Please cancel Claims 2 and 9-12; and amend Claims 1, 4-8, 13 and 14 as follows.

LISTING OF CLAIMS

1. (currently amended) A method of manufacturing piping having a respective joining portion at both end portions of a pipe in which a diameter expanding portion is formed at an end portion of a pipe, comprising the steps of: ~~fixing the pipe by clamping an appropriate portion of the pipe with a pipe chuck for adjusting the pipe length simultaneously when the expanding diameter portion is formed; engaging a connector having a through hole, the inner diameter of which is expanded, with an end portion of the pipe; and caulking an end portion of the pipe with a diameter expanding tool so as to expand the diameter of the pipe end portion and caulk it to an inner face of the connector, wherein, as a pipe fluctuation absorbing portion, which is a relief space of the pipe material, is previously formed in a portion on the inner face of the connector, when a plastic deformation is given to the pipe end portion by the diameter expanding tool so as to form a diameter expanding portion, an excess pipe material is absorbed by the pipe fluctuation absorbing portion and the pipe length is reduced and automatically adjusted to a predetermined length.~~

a first step of adjusting the pipe length necessary to form the diameter expanding portion before forming the diameter expanding portion,

a second step of absorbing an excessive pipe material which is not allowed to adjust the pipe length when forming the diameter expanding portion,

wherein the diameter expanding portion is formed in a predetermined shape by means of adjusting the volume of material at the forming end of the pipe without occurring flashes and underfills (thin portions);

said first step including:

a step of positioning one end of the pipe by a jig, the pipe being formed in an excessive length capable of absorbing the fluctuation of the pipe length,

a step of fixing the pipe by clamping the pipe at a position apart from the one end of the pipe, which is positioned by the jig, in a determined distance defined by a product size by a pipe chuck, and

a step of adjusting the pipe length by adjusting a size of an annular protruding portion formed on an outer circumference of the pipe, and annular protruding portion being formed by pressing the end of the pipe in the fixing side with a punch used for sizing, buckling the pipe and pushing out a portion of the pipe into a relief space previously formed on an end face of said pipe chuck, and

said second step including the steps of:

a step of inserting the other end portion of the pipe into a connector having a through-hole, the inner diameter of which is expanded, and

a step of caulking the other end portion of the pipe with a diameter expanding tool so as to expand the diameter of the other end portion thereof and caulk the other end portion of the pipe to the inner face of said connector,

wherein, as a pipe length fluctuation absorbing portion is previously formed in a portion of the inner face of said connector, when a plastic deformation is given to the other end portion of the pipe by said diameter expanding tool so as to form

the diameter expanding portion, the excessive pipe material is absorbed by the pipe length fluctuation absorbing portion of said connector and the pipe length is adjusted and automatically conformed to a predetermined length.

2. (cancelled)

3. (original) A method of manufacturing piping having a joining portion according to claim 2, wherein a quantity of reduction of the pipe length is increased when a radius of the protruding portion is increased.

4. (currently amended) A method of manufacturing piping having a joining portion according to claim 3, wherein ~~a height of~~ the relief space formed on the ~~basis of the~~ end face of the pipe chuck ~~is maintained~~ has a constant depth from the end face of the pipe chuck.

5. (currently amended) A method of manufacturing piping having a joining portion according to claim 1, wherein after an end portion of the pipe on the side opposite to the side on which the diameter expanding portion is formed has been fixed at a predetermined position by a jig, when ~~an appropriate~~ a portion of the pipe is clamped and fixed by the pipe chuck, the length of the pipe ~~is adjusted on the basis of an~~ from the end face of the pipe chuck is adjusted.

6. (currently amended) A method of manufacturing piping having a joining portion according to claim 1, wherein the pipe length fluctuation absorbing portion formed inside the connector is formed in a gap between the inner face of the through-hole of the connector and the surface of the diameter expanding tool.

7. (currently amended) A method of manufacturing piping having a joining portion according to claim 6, wherein the pipe length fluctuation absorbing portion is formed corresponding to an end portion of the pipe located inside the connector.

8. (currently amended) A method of manufacturing piping having a joining portion according to claim 6, wherein the pipe length fluctuation absorbing portion is formed corresponding to an intermediate portion of the pipe located inside the connector.

9.-12. (cancelled)

13. (currently amended) A method of manufacturing piping having a joining portion according to claim 1, wherein ~~instead of~~ the connector ~~connected with the diameter expanding portion of the end portion of the pipe,~~ is a female type jig capable of being split having [[a]] the through-hole, the inner face of which is expanded, is used so that the end portion of the pipe is expanded and caulked to the inner face of the female type jig, and then the female type jig is opened.

14. (currently amended) A method of manufacturing piping having a joining portion, the piping having a connector at an end portion, comprising the steps of: clamping and fixing ~~an appropriate~~ a portion of the pipe for adjusting a length of the pipe simultaneously when the connector is attached to the end portion; engaging the connector having a through-hole with the end portion of the pipe; and forming ~~and caulking~~ the end portion of the pipe to the connector so that the length from the clamping position to the end portion of the pipe can be constant, wherein the length of the pipe is reduced when an excess material of the pipe is absorbed by the ~~caulking~~ formed portion so as to adjust the length of the pipe to a predetermined value.